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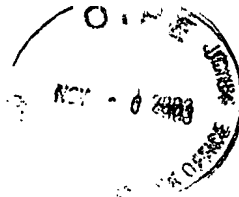
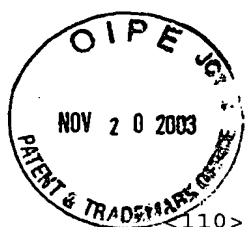
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- 1 -

SEQUENCE LISTING

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NOV 25 2003
TECH CENTER 1600/2900

<110> Gordon, Robert D
Sprengel, Jorg J
Yon, Jeffery R
Dijkmans, Josiena J.H.
Gosiewska, Anna
Dhanaraj, Sridevi N
Xu, Jean

<120> VASCULAR ENDOTHELIAL GROWTH FACTOR-X

<130> B0192.70011US00

<140> US 09/468,647
<141> 1999-12-21

<150> GB 9828377.3
<151> 1998-12-22

<150> US 60/124,967
<151> 1999-03-18

<150> US 60/164,131
<151> 1999-11-08

<160> 130

<170> PatentIn version 3.2

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35 40 45
Thr Val Leu Val Trp Arg Leu Val Ala Val Glu Glu Asn Val Trp Ile
50 55 60
Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu Glu Asp Pro Glu Asp Asp
65 70 75 80
Ile Cys Lys Tyr Asp Phe Val Glu Val Glu Glu Pro Ser Asp Gly Thr
85 90 95
Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr Val Pro Gly Lys Gln Ile
100 105 110
Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe Val Ser Asp Glu Tyr Phe
115 120 125

Pro Ser Glu Pro Gly Phe Cys Ile His Tyr Asn Ile Val Met Pro Gln
130 135 140

Phe Thr Glu Ala Val Ser Pro Ser Val Leu Pro Pro Ser Ala Leu Pro
145 150 155 160

Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala Phe Ser Thr Leu Glu Asp
165 170 175

Leu Ile Arg Tyr Leu Glu Pro Glu Arg Trp Gln Leu Asp Leu Glu Asp
180 185 190

Leu Tyr Arg Pro Thr Trp Gln Leu Leu Gly Lys Ala Phe Val Phe Gly
195 200 205

Arg Lys Ser Arg Val Val Asp Leu Asn Leu Leu Thr Glu Glu Val Arg
210 215 220

Leu Tyr Ser Cys Thr Pro Arg Asn Phe Ser Val Ser Ile Arg Glu Glu
225 230 235 240

Leu Lys Arg Thr Asp Thr Ile Phe Trp Pro Gly Cys Leu Leu Val Lys
245 250 255

Arg Cys Gly Gly Asn Cys Ala Cys Cys Leu His Asn Cys Asn Glu Cys
260 265 270

Gln Cys Val Pro Ser Lys Val Thr Lys Lys Tyr His Glu Val Leu Gln
275 280 285

Leu Arg Pro Lys Thr Gly Val Arg Gly Leu His Lys Ser Leu Thr Asp
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Thr Gly Gly

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Ser Ser Asn Lys Glu Gln Tyr Gly Val Gln Asp Pro Gln His Glu Arg
35 40 45

Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser Pro Arg Phe Pro
50 55 60

His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp Arg Leu Val Ala Val
65 70 75 80

Glu Glu Asn Val Trp Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu
 85 90 95
 Glu Asp Pro Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu
 100 105 110
 Glu Pro Ser Asp Gly Thr Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr
 115 120 125
 Val Pro Gly Lys Gln Ile Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe
 130 135 140
 Val Ser Asp Glu Tyr Phe Pro Ser Glu Pro Gly Phe Cys Ile His Tyr
 145 150 155 160
 Asn Ile Val Met Pro Gln Phe Thr Glu Ala Val Ser Pro Ser Val Leu
 165 170 175
 Pro Pro Ser Ala Leu Pro Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala
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 Phe Ser Thr Leu Glu Asp Leu Ile Arg Tyr Leu Glu Pro Glu Arg Trp
 195 200 205
 Gln Leu Asp Leu Glu Asp Leu Tyr Arg Pro Thr Trp Gln Leu Leu Gly
 210 215 220
 Lys Ala Phe Val Phe Gly Arg Lys Ser Arg Val Val Asp Leu Asn Leu
 225 230 235 240
 Leu Thr Glu Glu Val Arg Leu Tyr Ser Cys Thr Pro Arg Asn Phe Ser
 245 250 255
 Val Ser Ile Arg Glu Glu Leu Lys Arg Thr Asp Thr Ile Phe Trp Pro
 260 265 270
 Gly Cys Leu Leu Val Lys Arg Cys Gly Gly Asn Cys Ala Cys Cys Leu
 275 280 285
 His Asn Cys Asn Glu Cys Gln Cys Val Pro Ser Lys Val Thr Lys Lys
 290 295 300
 Tyr His Glu Val Leu Gln Leu Arg Pro Lys Thr Gly Val Arg Gly Leu
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 His Lys Ser Leu Thr Asp Val Ala Leu Glu His His Glu Glu Cys Asp
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 Cys Val Cys Arg Gly Ser Thr Gly Gly
 340 345

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gtacaagatc ctcagcatga gagaattatt actgtgtcta ctaatggaag tattcacagc 180
ccaaggtttc ctcatactta tccaagaaat acggtcttgg tatggagatt agtagcagta 240
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<223> Description of Artificial Sequence: primer

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<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence:primer

<400> 5
gtttgatgaa agatttgggc ttg 23

<210> 6
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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer

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22

<210> 7

<211> 20

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: primer

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<210> 8

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer

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17

<210> 9

<211> 18

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<223> Description of Artificial Sequence: primer

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18

<210> 10

<211> 18

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agcacctgat tccgttgc

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aagagacata cttctgtac 19

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<223> Description of Artificial Sequence:primer

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ccaggtacaa taagtgaact g 21

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<223> Description of Artificial Sequence:primer

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<210> 23
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<211> 111

<212> PRT

<213> Homo sapiens

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Gly Ser Ile His Ser Pro Arg Phe Pro His Thr Tyr Pro Arg Asn Thr
20 25 30

Val Leu Val Trp Arg Leu Val Ala Val Glu Glu Asn Val Trp Ile Gln
35 40 45

Leu Thr Phe Asp Glu Arg Phe Gly Leu Glu Asp Pro Glu Asp Asp Ile
50 55 60

Cys Lys Tyr Asp Phe Val Glu Val Glu Glu Pro Ser Asp Gly Thr Ile
65 70 75 80

Leu Gly Arg Trp Cys Gly Ser Gly Thr Val Pro Gly Lys Gln Ile Ser
85 90 95

Lys Gly Asn Gln Ile Arg Ile Arg Phe Val Ser Asp Glu Tyr Phe
100 105 110

<210> 27

<211> 168

<212> PRT

<213> Homo sapiens

<400> 27

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His His His Glu Ser Asn Leu Ser Ser Lys Phe Gln Phe Ser Ser Asn
20 25 30

Lys Glu Gln Asn Gly Val Gln Asp Pro Gln His Glu Arg Ile Ile Thr
35 40 45

Val Ser Thr Asn Gly Ser Ile His Ser Pro Arg Phe Pro His Thr Tyr
50 55 60

Pro Arg Asn Thr Val Leu Val Trp Arg Leu Val Ala Val Glu Glu Asn
65 70 75 80

Val Trp Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu Glu Asp Pro
85 90 95

Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu Glu Pro Ser
100 105 110

Asp Gly Thr Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr Val Pro Gly
 115 120 125

Lys Gln Ile Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe Val Ser Asp
 130 135 140

Glu Tyr Phe Pro Ser Glu Pro Gly Phe Cys Ile His Tyr Asn Ile Val
 145 150 155 160

Met Pro Gln Phe Thr Glu Ala Val
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 cctcagcatg agagaattat tactgtgtct actaatggaa gtattcacag cccaagggtt 180
 cctcatactt atccaagaaa tacggtcttg gtatggagat tagtagcagt agaggaaaat 240
 gtatggatac aacttacgtt tgatgaaaga tttgggcttg aagaccaga agatgacata 300
 tgcaagtatg attttgtaga agttgaggaa ccagtgatg gaactatatt agggcgctgg 360
 tgtggttctg gtactgtacc aggaaaacag atttctaaag gaaatcaaat taggataaga 420
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 atgccacaat tcacagaagc tgtg 504

<210> 29
 <211> 132
 <212> PRT
 <213> Homo sapiens

<400> 29
 Asp Leu Tyr Arg Pro Thr Trp Gln Leu Leu Gly Lys Ala Phe Val Phe
 1 5 10 15

Gly Arg Lys Ser Arg Val Val Asp Leu Asn Leu Leu Thr Glu Glu Val
 20 25 30

Arg Leu Tyr Ser Cys Thr Pro Arg Asn Phe Ser Val Ser Ile Arg Glu
 35 40 45

Glu Leu Lys Arg Thr Asp Thr Ile Phe Trp Pro Gly Cys Leu Leu Val
 50 55 60

Lys Arg Cys Gly Gly Asn Cys Ala Cys Cys Leu His Asn Cys Asn Glu
 65 70 75 80

Cys Gln Cys Val Pro Ser Lys Val Thr Lys Lys Tyr His Glu Val Leu
 85 90 95

Gln Leu Arg Pro Lys Thr Gly Val Arg Gly Leu His Lys Ser Leu Thr
100 105 110
Asp Val Ala Leu Glu His His Glu Glu Cys Asp Cys Val Cys Arg Gly
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Ser Thr Gly Gly
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agtggctgat tctattagag aacgtatgcg ttatctccat ccttaatctc agttgtttgc 180
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<212> DNA
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<223> Description of Artificial Sequence: Human EST

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<212> DNA
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<223> Description of Artificial Sequence: Human EST

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ctttcatctt caggatttac agtgcattct gaaagaggag acatcaaaca gaattaggag 180
ttgtgcaaca gctcttttga gaggaggcct aaaggacagg aaaaagggtc ttcaatcgtg 240
gaaagaanat taaatgttgt attaaataga caccagct 278

<210> 34
<211> 275
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: Human EST

<400> 34
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ctttcatctt caggatttac atgcattctg aaagaggaga catcaaacag aattaggagt 180
tgtgcaacag ctctttttgag aggaggccta aaggacagga gaaaagggtc tcaatcgtgg 240
aaagaaaatt aaatgttgta ttaaatagat cacca 275

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<212> DNA
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<223> Description of Artificial Sequence: Human EST

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ataccacgag gtccttcagt tgagaccaa gaccggtgtc aggggattgc acaaactcact 180
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aggatagccg catcaccacc a 261

<210> 36
<211> 279
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 36
agaaaatcca gagtgggtga tctgaacctt ctaacagagg aggtaagatt atacagctgc 60
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tgccaggtt gtctcctggt taaacgctgt ggtgggaact gtgcctgttg tctccacaat 180
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<211> 262
<212> DNA
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<223> Description of Artificial Sequence: Human EST

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aactaaagag aaccgatacc attttctggc caggttgtct cctgggttaa cgctgtggtg 180
ggaactgtgc ctgttgtctc ccacaattgc aatgaatgtc aatgtgtccc aagcaaagtt 240
actaaaaaat accacgaggt cc 262

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<223> n is a, c, g, t, or u

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<222> (125) (125)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

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gaaanaaaat taaatgttgt attaaataga tcaccagcta gtttcagagt taccatgtac 180
gtattccact agctgggttc tgtatttcag ttctttcgat acggcttagg gtaatgtcag 240
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<212> DNA
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<223> Description of Artificial Sequence: Human EST

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ctccatcctt aatctcagtt gtttgnttca aggaccttct atcttcagga tttacagtgc 120
attctgaaag aggagacatc aaacagaatt aggagttgtg caacagctct tttgagagga 180
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ttaaatagat caccagctag tttcagagtt accatgtacg tattccacta gctgggttct 180

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<221. misc_feature
<222> (238) (238)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (246) (247)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (252) (252)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (257) (257)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 43
tgcaacagct cttttgagag gaggcctaaa ggacaggaga aaaggtcttc aatcgtggaa 60
agaaaattaa atgttgtatt aaatagatca ccagctagtt tcagagttac catgtacgta 120
ttccactagc tgggttctgt atttcagttc tttcgatacg gcttagggta atgtcagtac 180
aggaaaaaaa ctgtgcaagt gagcacctga ttccgttgcc ttgcttaacc ctaaagcncc 240
atgtcnnggg cnaaaancga aaaat 265

<210> 44
<211> 291
<212> DNA
<213> Artificial Sequence

<220>
<221. misc_feature
<222> (61) (61)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (66) (66)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (88) (88)

<223> n is a, c, g, t, or u

<220>

<221. misc_feature

<222> (141) (141)

<223> n is a, c, g, t, or u

<220>

<221. misc_feature

<222> (155) (155)

<223> n is a, c, g, t, or u

<220>

<221. misc_feature

<222> (172) (172)

<223> n is a, c, g, t, or u

<220>

<221. misc_feature

<222> (177) (177)

<223> n is a, c, g, t, or u

<220>

<221. misc_feature

<222> (227) (227)

<223> n is a, c, g, t, or u

<220>

<221. misc_feature

<222> (229) (229)

<223> n is a, c, g, t, or u

<220>

<221. misc_feature

<222> (274) (274)

<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 44

ccttaatctc agttgtttgc ttcaaggacc tttcatcttc aggatttaca gtgcattctg 60

naangangaga catcaaacag aattaggngt tgtgcaaaag ctcttttgag aggaggccta 120

aaggacagga gaaaagggtct ncaatcgtgg aaagnaaatt aaatgttgta tnaaatngat 180

caccagctag tttcagagtt accatgtacg tattccacta gctgggncng tattcagtct 240

ttcggaacgg cttagggttaa tgtcagtaca gganaaaaaac tgtgcagtga g 291

<210> 45

<211> 279

<212> DNA

<213> Artificial Sequence

<220>

<221. misc_feature

<222> (205) (205)

<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (240) (240)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (254) (254)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 45
attaaataga tcaccagcta gtttcagagt taccatgtac gtattccact agctgggttc 60
tgtatttcag ttctttcgat acggcttagg gtaatgtcag tacaggaaaa aaactgtgca 120
agtgagcacc tgattccgtt gccttggctt aactctaaag ctccatgtcc tgggcctaaa 180
atcgataaaa atctggattt tttntttttt ttttgcgcat attcacatat gtaaaccagn 240
acattctatg tacnacaaac ctggttttta aaaaggaac 279

<210> 46
<211> 181
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 46
ggctagtttc agagttacca tgtacgtatt ccactagctg ggttctgtat ttcagttctt 60
tcgatacggc ttagggtaat gtcagtacag gaaaaaaact gtgcaagtga gcacctgatt 120
ccgttgccctt gcttaactct aaagctccat gtccctgggcc taaaatcgta taaaatctgg 180
a 181

<210> 47
<211> 184
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (54) (54)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 47
aatagatcac cagctagttt cagagttacc atgtacgtat tccactagct gggntctgta 60
tttcagttcc tttcgatacg gcttagggta atgtcagtac aggaaaaaag ctgtgcaagt 120
gagcacctga ttccgttgcc ttgcttaact ctaaagctcc atgtcctggg cctaaaatcg 180

tata

184

<210> 48

<211> 290

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 48

aaaggaacta tgttgctatg aattaaactt gtgtcgtgct gataggacag actggatttt 60

tcatatttct tattaaaatt tctgccattt agaagaagag aactacattc atggtttgga 120

agagataaac ctgaaaagaa gagtggcctt atcttcactt tatcgataag tcagtttatt 180

tgtttcattg tgtacatttt tatattctcc ttttgacatt ataactgttg gcttttctaa 240

tcttggttaa tatatctatt ttaccaaag gtatttaata ttctttttta 290

<210> 49

<211> 300

<212> DNA

<213> Artificial Sequence

<220>

<221. misc_feature

<222> (41) (41)

<223> n is a, c, g, t, or u

<220>

<221. misc_feature

<222> (293) (293)

<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 49

cacaaatcac tcaccgacgt ggccctggag caccatgagg ngtgtgactg tgtgtgcaga 60

gggagcacag gaggatagcc gcaccaccac cagcagctct tgcccagagc tgtgcagtgc 120

agtggctgat tctattagag aacgtatgcg ttatctccat ccttaatctc agttgtttgc 180

ttcaaggacc tttcatcttc aggatttaca gtgcattctg aaagaggaga catcaaacag 240

aattaggagt tgtgcaacag ctcttttgag aggaggctaa aggacaggag aanaggtctt 300

<210> 50

<211> 284

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 50
tgcagtgcag tggctgattc tattagagaa cgtatgcgtt atctccatcc ttaatctcag 60
ttgtttgctt caaggacctt tcattcttcag gatttacagt gcattctgaa agaggagaca 120
tcaaacagaa ttaggagttg tgcaacagct cttttgagag gaggcctaaa ggacaggaga 180
aaaggctctt aatcgtggaa agaaaattaa atgttgtatt aaatagatca ccagctagtt 240
tcagagttac catgtacgta ttccactagc tgggttctgt attt 284

<210> 51
<211> 301
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (47) (47)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (253) (253)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 51
cttggttaaat atatctatctt ttaccaaagg tatttaatat tctttantta tgacaactta 60
gatcaactat ttttagcttg gtaaattttt ctaaacacaa ttgttatagc cagaggaaca 120
aagatgatat aaaatattgt tgctctgaca aaaatacatg tatttcattc tcgtatgggtg 180
ctagagttag attaatctgc attttaaaaa actgaattgg aatagaattg gtaagttgca 240
aagactttttt ganaataatt aaattatcat atcttccatt cctgttattg ggggagaaaa 300
t 301

<210> 52
<211> 275
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 52
cacgaggtcc ttcagttgag accaaagacc ggtgtcaggg gattgcacaa atcactcacc 60
gacgtggccc tggagcacca tgaggagtgt gactgtgtgt gcagagggag cacaggggga 120
tagccgcatac accaccagca gctcttgccc agagctgtgc agtgcagtgg ctgattctat 180
tagagaacgt atgcgttatc tccatcctta atctcagttg tttgcttcaa ggacctttca 240
tcttcaggat ttacagtgca ttctgaaaga ggaga 275

<210> 53
<211> 288
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 53
ttaaaaagga actatgttgc tatgaattaa acttgtgtca tgctgatagg acagactgga 60
tttttcatat ttcttattaa aatttctgcc atttagaaga agagaactac attcatgggt 120
tggaagagat aaacctgaaa agaagagtgg ctttatcttc actttatcga taagtcagtt 180
tatttggtttc attgtgtaca tttttatatt ctcttttga cattataact gttggctttc 240
taatctgtta aatatatcta tttttaccaa aggtatttaa tattcttt 288

<210> 54
<211> 278
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 54
ggaggatagc cgcacacca ccagcagctc ttgcccagag ctgtgcagtg cagtggtgta 60
ttctattaga gaacgtatgc gttatctcca tccttaatct cagttgtttg cttcaaggac 120
ctttcatctt caggatttac agtgcattct gaaagaggag acatcaaaca gaattaggag 180
ttgtgcaaca gctcttttga gaggaggcct aaaggacagg agaaaaggtc ttcaatcgtg 240
gaaagaanat taaatgttgt attaaataga caccagct 278

<210> 55
<211> 275
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 55
ggaggatagc cgcacacca ccagcagctc ttgcccagag ctgtgcagtg cagtggtgta 60
ttctattaga gaacgtatgc gttatctcca tccttaatct cagttgtttg cttcaaggac 120
ctttcatctt caggatttac atgcattctg aaagaggaga catcaaacag aattaggagt 180
tgtgcaacag ctctttttgag aggaggccta aaggacagga gaaaagggtc tcaatcgtgg 240
aaagaaaatt aatgttgta ttaaatagat cacca 275

<210> 56
<211> 261
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 56
gagaaccgat accattttct ggccaggttg tctcctgggt aaacgctgtg gtgggaactg 60
tgctgtgtgt ctccacaatt gcaatgaatg tcaatgtgtc ccaagcaaag ttactaaaaa 120
ataccacgag gtccttcagt tgagaccaa gaccggtgtc aggggattgc acaaactact 180
caccgacgtg gccctggagc accatgagga gtgtgactgt gtgtgcagag ggagcacagg 240
aggatagccg catcaccacc a 261

<210> 57
<211> 279
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 57
agaaaaatcca gagtgggtga tctgaacctt ctaacagagg aggtaagatt atacagctgc 60
acacctcgta acttctcagt gtccataagg gaagaactaa agagaaccga taccattttc 120
tggccaggtt gtctcctggt taaacgctgt ggtgggaact gtgcctgttg tctccacaat 180
tgcaatgaat gtcaatgtgt ccaagcaaa gttactaaaa aataccacga ggtccttcag 240
ttgagaccaa agaccggtgt caggggattg cacaaatca 279

<210> 58
<211> 259
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 58
agatgatata aaatattggt gctctgacaa aaatacatgt atttcattct cgtatgggtgc 60
tagagttaga ttaatctgca ttttaaaaaa ctgaattgga atagaattgg taagttgcaa 120
agactttttg aaaataatta aattatcata tcttccattc ctgttattgg agatgaaaat 180
aaaaagcaac ttatgaaagt agacattcag atccagccat tactaaccta ttcctttttt 240
ggggaaatct gagcctagc 259

<210> 59
<211> 284
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 59
tttttaaaaa ggaactatgt tgctatgaat taaacttggtg tcgtgctgat aggacagact 60
ggattttttca tatttcttat taaaatttct gccatttaga agaagagaac tacattcatg 120
gtttggaaga gataaacctg aaaagaagag tggcctatct tcactttatc gataagtcag 180
tttatttggtt tcattgtgta catttttata ttctcctttg acatataact gttggctttt 240
ctaactctgtt aaatatatct atttttacca aagggtattta atat 284

<210> 60
<211> 262
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 60
aggaaatcaa attaggataa gatttgtatc tgatgaatat ttctccttctg aaccttctaa 60
cagaggaggt aagattatac agctgcacac ctcgtaactt ctcagtgtcc ataagggaag 120
aactaaagag aaccgatacc attttctggc cagggttgtct cctgggttaaa cgctgtggtg 180
ggaactgtgc ctgttgtctc ccacaattgc aatgaatgtc aatgtgtccc aagcaaagtt 240
actaaaaaat accacgaggt cc 262

<210> 61
<211> 289
<212> DNA
<213> Artificial Sequence

<220>

<221. misc_feature
<222> (35) (35)
<223> n is a, c, g, t, or u

<220>

<221. misc_feature
<222> (51) (51)
<223> n is a, c, g, t, or u

<220>

<221. misc_feature
<222> (125) (125)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 61
atttcattctt caggatttac agtgcattct gaaanaggag aaatcaaaca naattaggag 60
ttgtgcaaca gctcttttga gaggaggcct aaaggacagg agaaaagggtc ttcaatcgtg 120
gaaanaaaat taaatgttgt attaaataga tcaccagcta gtttcagagt taccatgtac 180
gtattccact agctgggttc tgtatttcag ttctttcgat acggcttagg gtaatgtcag 240
tacaggaaaa aaactgtgca agtgagcacc tgattccggt gccttgctt 289

<210> 62

<211> 251

<212> DNA

<213> Artificial Sequence

<220>

<221. misc_feature

<222> (10) (10)

<223> n is a, c, g, t, or u

<220>

<221. misc_feature

<222> (246) (246)

<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 62
ttagcttggn aaatttttct aaacacaatt gttatagcca gaggaacaaa gatgatataa 60
aatattgttg ctctgacaaa aatacatgta ttccattctc gtatgggtgct agagtttagat 120
taatctgcat tttaaaaaac tgaattggaa tagaattgggt aagttgcaaa gactttttga 180
aaataattaa attatcatat cttccattcc tgttattgga gatgaaaata aaaagcaact 240
tatganagta g 251

<210> 63

<211> 252

<212> DNA

<213> Artificial Sequence

<220>

<221. misc_feature

<222> (250) (250)

<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 63
cttttttatg acaacttaga tcaactatct ttagcttggt aaatttttct aaacacaatt 60
gttatagcca gaggaacaaa gatgatataa aatattgttg ctctgacaaa aatacatgta 120
tttcattctc gtatgggtgct agagtttagat taatctgcat tttaaaaaac tgaattggaa 180

tagaattggt aagttgcaaa ggctttttga aaataattaa attatcatat cttccattcc 240
tgttattggn gg 252

<210> 64
<211> 245
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 64
caaagttact aaaaaatacc acgaggtcct tcagttgaga ccaaagaccg gtgtcagggg 60
attgcacaaa tactcaccg acgtggccct ggagcaccat gaggagtgtg actgtgtgtg 120
cagagggagc acaggaggat agccgcacat ccaccagcag ctcttgccca gagctgtgca 180
gtgcagtggc tgattctatt agagaacgta tgcgttatct ccatccttaa tctcagttgt 240
ttgct 245

<210> 65
<211> 245
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 65
agataaacct gaaaagaaga gtggccttat cttcacttta tcgataagtc agtttatttg 60
tttcattgtg tacattttta tattctcctt ttgacattat aactgttggc ttttctaate 120
ttgttaaata tatctatttt taccaaaggt atttaatat cttttttatg acaacttaga 180
tcaactatgt ttagcttggc aaatttttct aaacacaatt gttatagcca gaggaacaaa 240
gatga 245

<210> 66
<211> 243
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 66
ctggattttt catatttctt attaaaattt ctgccattta gaagaagaga actacattca 60
tggtttggaa gagataaacc tgaaaagaag agtggcctta tcttcacttt atcgataagt 120
cagtttattt gtttcattgt gtacattttt atattctcct tttgacatta taactgttgg 180

cttttctaataa cttgttaaataa atatctattt ttaccaaagg tattttaatat tcttttttat 240
gac 243

<210> 67
<211> 244
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (64) (64)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (215) (215)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 67
gctcatattc acatatgtaa accagaacat tctatgtact acaaacctgg tttttaaaaa 60
gganctatgt tgctatgaat taaacttggtg tcgtgctgat aggacagact ggatttttca 120
tattttcttat taaaattttct gccatttaga agaagagaac tacattcatg gtttggaaga 180
gataaacctg aaaagaagag tggccttata ttcantttat cgataagtca gtttatttgt 240
ttca 244

<210> 68
<211> 247
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (2) (2)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (86) (86)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (191) (191)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 68
angagttgcc cagagctgtg cagtgcagtg gctgattcta ttagagaacg tatgcgttat 60
ctccatcctt aatctcagtt gtttgnttca aggacctttc atcttcagga tttacagtgc 120
attctgaaag aggagacatc aaacagaatt aggagttgtg caacagctct tttgagagga 180

ggcctaaagg ncaggagaaa aggtcttcaa tcgtggaaag aaaattaaat gttgtattaa 240
atagatc 247

<210> 69
<211> 233
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 69
aaagatgata taaaatattg ttgctctgac aaaaatacat gtatttcatt ctcgtatggc 60
gctagagtta gattaatctg ctttttaaaa aactgaattg gaatagaatt ggtaagttgc 120
aaagactttt tgaaaataat taaattatca tatcttccat tcctgttatt ggagatgaaa 180
ataaaaagca acttatgaaa gtagacattc agatccagcc attactaacc tat 233

<210> 70
<211> 232
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 70
aggaaatcaa attaggataa gatttgtatc tgatgaatat tttccttctg aaccttctaa 60
cagaggaggc aagattatac agctgcacac ctcgtaactt ctcagtgtcc ataagggag 120
aactaaagag aaccgatacc attttctggc caggttgtct cctgggttaa cgctgtgggtg 180
ggaactgtgc ctgttgtctc cacaattgca atgaatgtca atgtgtccca ag 232

<210> 71
<211> 253
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 71
gtgcattctg aaagaggaga catcaaacag aattaggagt tgtgcaacag ctcttttgag 60
aggaggccta aaggacagga gaaaaggctc tcaatcgtgg aaagaaaatt aaatgttgta 120
ttaaatagat caccagctag tttcagagtt accatgtacg tattccacta gctgggttct 180
gtatttcagt tctttcgata cggcttaggg taatgtcagt acaggaaaaa aactgtgcaa 240
gtgagcacct gat 253

<210> 72
<211> 233
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (48) (48)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 72
tgtacatttt tatattctcc ttttgacatt ataactgttg gcttttcnaa tcttggttaa 60
tatatctatt ttaccaaag gtatttaata ttctttttta tgacaactta gatcaactat 120
ttttgacttg gtaaattttt ctaaacacaa ttgttatagc cagaggaaca aagatgatat 180
aaaatattgt tgctctgaca aaaatacatg tatttcattc tcgtatgggtg cta 233

<210> 73
<211> 250
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (53) (53)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 73
cacaattggt atagccagag gaacaaagat gatataaaat attgttgctc tgncaaaaat 60
acatgtattt cattctcgta tgggtgctaga gttagattaa tctgcatttt aaaaaactga 120
attggaatag aattggtaag ttgcaaagac tttttgaaaa taattaaatt atcatatctt 180
ccattcctgt tattggagat gaaaataaaa agcaacttat gaaagtaaatt tcagatccac 240
cattactaac 250

<210> 74
<211> 247
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 74
atttcattct cgtatgggtgc tagagttaga ttaatctgca ttttaaaaaa ctgaattgga 60
atagaattgg taagttgcaa agactttttg aaaataatta aattatcata tcttccattc 120
ctgttattgg agatgaaaat aaaaagcaac ttatgaaagt agacattcag atccagccat 180

tactaaccta ttcctttttt ggggaaatct gagcctagct cagaaaaaca taaagcacct 240
tgaaaaa 247

<210> 75
<211> 265
<212> DNA
<213> Artificial Sequence

<220>
<221. misc_feature
<222> (238) (238)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (246) (247)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (252) (252)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (257) (257)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 75
tgcaacagct cttttgagag gaggcctaaa ggacaggaga aaaggtcttc aatcgtggaa 60
agaaaattaa atgttgtatt aaatagatca ccagctagtt tcagagttac catgtacgta 120
ttccactagc tgggttctgt atttcagttc ttccgatacg gcttagggta atgtcagtac 180
aggaaaaaaaa ctgtgcaagt gagcacctga ttccgttgcc ttgcttaacc ctaaagcncc 240
atgtcnnggg cnaaaancga aaaat 265

<210> 76
<211> 251
<212> DNA
<213> Artificial Sequence

<220>
<221. misc_feature
<222> (134) (134)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (157) (157)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 76
tttctaaaca caattgttat agccagagga acaaagatga tataaaatat tgttgctctg 60
acaaaaatac atgtatttca ttctcgtatg gtgctagagt tagattaatc tgcatttttaa 120
aaaactgaat tggnatagaa ttggtaagtt gcaaagnctt tttgaaaata attaaattat 180
catatcttcc attcctgtta ttggaggatg gaaaataaaa agcaacttat ggaaagtagg 240
acattcagat c 251

<210> 77
<211> 291
<212> DNA
<213> Artificial Sequence

<220>
<221. misc_feature
<222> (61) (61)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (66) (66)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (88) (88)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (141) (141)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (155) (155)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (172) (172)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (177) (177)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (227) (227)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (229) (229)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (274) (274)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 77
ccttaatctc agttgtttgc ttcaaggacc tttcatcttc aggatttaca gtgcattctg 60
naagangaga catcaaacag aattaggngt tgtgcaaaag ctcttttgag aggaggccta 120
aaggacagga gaaaaggctc ncaatcgtgg aaagnaaatt aaatgttgta tnaaatngat 180
caccagctag tttcagagtt accatgtacg tattccacta gctgggncng tattcagctc 240
ttcggaacgg cttagggttaa tgtcagtaca gganaaaaac tgtgcagtga g 291

<210> 78
<211> 253
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (84) (84)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (143) (143)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 78
gtactacaaa cctgggtttt aaaaaggaac tatgttgcta tgaattaaac ttgtgtccat 60
gctgatagga cagactggat tttncatatt tcttattaaa atttctgccca tttagaagaa 120
gagaactaca ttcatggttt ggnagagata aacctgaaaa gaagagtggc cttatcttca 180
ctttatcgat aagtcagttt atttgtttca tgtgtacatt tttatattct cctttgacat 240
ataacgtggc ttt 253

<210> 79
<211> 204
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (190) (190)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 79
ttatattctc cttttgacat tataactggt ggcttttcta atcttggtta atatattctat 60

ttttaccaaaa ggtattttaat attctttttt atgacaactt agatcaacta ttttttagctt 120
ggtaaattttt tctaaacaca attggttatag ccagaggaac aaagatgata taaaatattg 180
ttgctctgan aaaaatacat gtat 204

<210> 80
<211> 303
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (2) (2)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (87) (104)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (267) (267)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (272) (272)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (300) (300)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 80
anactgtgca agtgagcacc tgattccggt gccttgctta actctaaagc tccatgtcct 60
gggcctaaaa tcgtataaaa tctggannnn nnnnnnnnnn nnnngctcat attcacatat 120
gtaaaccaga acattctatg tactacaaac ctggttttta aaaaggaact atgttgctat 180
gaattaaact tgtgtcgtgc tgataggaca gactggattt ttcataattc ttattaaaat 240
ttctgccatt agaagaagag aactacnttc anggtttgga agagataacc ctgaaaagan 300
ggg 303

<210> 81
<211> 228
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (112) (112)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (132) (132)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 81
gctcatattc acatatgtaa accagaacat tctatgtact acaaacctgg tttttaaaaa 60
ggaactatatt gctatgaatt aaacttgtgt cgtgctgata ggacagactg gntttttcat 120
atttcttatt anaatttctg ccattagaag aagagaacta cattcatggt ttggaagaga 180
taaacctgaa aagaagagtgcctatttca ctttatcgat aagtcagt 228

<210> 82
<211> 193
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 82
gctcatattc acatatgtaa accagaacat tctatgtact acaaacctgg tttttaaaaa 60
ggaactatgt tgctatgaat taaacttgtg tcgtgctgat aggacagact ggatttttca 120
tatttcttat taaaatttct gccatttaga agaagagaac tacattcatg gtttggaaga 180
gataaacctg aaa 193

<210> 83
<211> 282
<212> DNA
<213> Artificial Sequence

<220>
<221. misc_feature
<222> (42) (42)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (94) (94)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (235) (235)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (269) (269)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 83
aaaaaactga attggaatag aattggtaag ttgcaaagac tntttgaaaa taattaaatt 60
atcatatctt ccattcctgt tattggagat gaanataaaa agcaacttat gaaagtagac 120
attcagatcc agccattact aacctattcc ttttttgggg aaatctgagc ctagctcaga 180
aaaacataaa gcaccttgaa aaagacttgg cagcttcctg ataaagcgtg ctgtntgtca 240
gtaggaacac atcctattta ttgtgatgnt gtggtttatt at 282

<210> 84
<211> 279
<212> DNA
<213> Artificial Sequence

<220>
<221. misc_feature
<222> (205) (205)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (240) (240)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (254) (254)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 84
attaaataga tcaccagcta gtttcagagt taccatgtac gtattccact agctgggttc 60
tgtatttcag ttctttcgat acggcttagg gtaatgtcag tacaggaaaa aaactgtgca 120
agtgagcacc tgattccgtt gccttggtt aactctaaag ctccatgtcc tgggcctaaa 180
atcgtataaa atctggattt tttntttttt ttttgcgcat attcacatat gtaaaccagn 240
acattctatg tacnacaaac ctggttttta aaaaggaac 279

<210> 85
<211> 181
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 85
ggctagtttc agagttacca tgtacgtatt ccactagctg ggttctgtat ttcagttctt 60
tcgatacggc ttagggtaat gtcagtacag gaaaaaaact gtgcaagtga gcacctgatt 120
ccgttgccctt gcttaactct aaagctccat gtctggggcc taaaatcgta taaaatctgg 180

a

181

<210> 86
<211> 269
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 86
tggtaagttg caaagacttt ttgaaaataa ttaaattatc atatcttcca ttcctgttat 60
tggagatgaa aataaaaagc aacttatgaa agtagacatt cagatccagc cattactaac 120
ctattccttt tttggggaaa tctgagccta gctcagaaaa acataaagca ccttgaaaaa 180
gacttggcag cttcctgata aagcgtgctg tgctgtgcag tagggaacac atcctattta 240
ttgtgatgtt gtggtttata tcctaaacc 269

<210> 87
<211> 184
<212> DNA
<213> Artificial Sequence

<220>

<221. misc_feature
<222> (54) (54)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 87
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tttcagttcc tttcgatacg gcttagggta atgtcagtac aggaaaaaag ctgtgcaagt 120
gagcacctga ttccgttgcc ttgcttaact ctaaagctcc atgtcctggg cctaaaaatcg 180
tata 184

<210> 88
<211> 164
<212> DNA
<213> Artificial Sequence

<220>

<221. misc_feature
<222> (31) (31)
<223> n is a, c, g, t, or u

<220>

<221. misc_feature
<222> (53) (53)
<223> n is a, c, g, t, or u

<220>
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<222> (88) (89)
<223> n is a, c, g, t, or u

<220>
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<222> (116) (116)
<223> n is a, c, g, t, or u

<220>
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<222> (119) (119)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (121) (121)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 88
agataaacct gaaaagaaga gtggccttat nttcacttta tcgataagtc agnttatttg 60
tttcattgtg tacatttnna tattctcctt ttgacattat aactgntggc ttttctaanc 120
ntgttaaata tatctatttt taccaaaggt atttaatat cttt 164

<210> 89
<211> 143
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 89
tatggtgcta gagttagatt aatctgcatt ttaaaaaact gaattggaat agaattggta 60
agttgcaaag acttttttgaa aataattaaa ttatcatatc ttccattcct gttattggag 120
atgaaaataa aaagcaactt atg 143

<210> 90
<211> 164
<212> DNA
<213> Artificial Sequence

<220>
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<222> (7) (7)
<223> n is a, c, g, t, or u

<220>
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<222> (35) (35)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (51) (51)
<223> n is a, c, g, t, or u

<220>
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<222> (132) (132)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (141) (141)
<223> n is a, c, g, t, or u

<220>
<221> misc_feature
<222> (145) (146)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 90
ttttttnttt tgctcatatt cacatatgta aaccngaaca ttctatgtac nacaaacctg 60
gtttttaaaa aggaactatg ttgctatgaa ttaaacttgt gtcgtgctga taggacagac 120
tggatttttc anatttctta ntaanntttc tgccatttag aaga 164

<210> 91
<211> 244
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (98) (115)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 91
gtacaggaaa aaaactgtgc aagtgagcac ctgattccgt tgccttgctt aactctaaag 60
ctccatgtcc tgggcctaaa atcgtataaa atctggannn nnnnnnnnnn nnnngctca 120
tattcacata tgtaaaccag aacattctat gtactacaaa cctgggttttt aaaaaggaac 180
tatgttgcta tgaattaaac ttgtgtcgtg ctgataggac agactggatt tttcatattt 240
ctta 244

<210> 92
<211> 254
<212> DNA
<213> Artificial Sequence

<220>
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<222> (16) (16)

<223> n is a, c, g, t, or u

<220>

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<222> (20) (20)

<223> n is a, c, g, t, or u

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<222> (52) (52)

<223> n is a, c, g, t, or u

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<222> (61) (61)

<223> n is a, c, g, t, or u

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<222> (144) (144)

<223> n is a, c, g, t, or u

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<222> (225) (225)

<223> n is a, c, g, t, or u

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<222> (236) (236)

<223> n is a, c, g, t, or u

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<222> (240) (240)

<223> n is a, c, g, t, or u

<220>

<221. misc_feature

<222> (242) (242)

<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 92

gcaaagactt tttganaatn attaanttat catatcttcc attcctgtta tnggagatga 60

naataaaaaag caacttatga aagtagacat tcagatccag ccattactaa cctattcctt 120

ttttgggggaa atctgagcct agcncagaaa aacataaagc accttgaaaa agacttggca 180

gcttcctgat aaagcgtgct gtgctgtgca gtaggaacac atccnattta ttgtgntgtn 240

gnggttttat gatc

254

<210> 93
<211> 243
<212> DNA
<213> Artificial Sequence

<220>
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<222> (103) (120)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 93
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taaagctcca tgcctgggc ctaaaatcgt ataaaatctg gannnnnnnnn nnnnnnnnnn 120
gctcatattc acatatgtaa accagaacat tctatgtact acaaacctgg tttttaaaaa 180
ggaactatgt tgctatgaat taaacttgtg tcatgtctgat aggacagact ggatttttca 240
tat 243

<210> 94
<211> 244
<212> DNA
<213> Artificial Sequence

<220>
<221. misc_feature
<222> (36) (36)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 94
aattatcata tcttccattc ctgttattgg agatgnaaat aaaaagcaac ttatgaaagt 60
agacattcag atccagccat tactaaccta ttcctttttt ggggaaatct gagcctagct 120
cagaaaaaca taaagcacct tgaaaaagac tgtcagcttc ctgataaagc gtgctgtgct 180
gtgcagtagg aacacatcct atttattgtg atgttgtggg tttattatct taaactcggt 240
ccat 244

<210> 95
<211> 152
<212> DNA
<213> Artificial Sequence

<220>
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<222> (2) (2)
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<223> n is a, c, g, t, or u

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<222> (125) (125)
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<222> (127) (127)
<223> n is a, c, g, t, or u

<220>
<221. misc_feature
<222> (137) (137)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 95
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gctagagtta gattaatctg cnttttaaaa aactganttg gaatagantt ggtaagttgc 120
aaagncnttt gaaaatnatt aagttatcag at 152

<210> 96
<211> 292
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Human EST

<400> 96
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ccagccatta ctaacctatt ccttttttgg ggaaatctga gcctagctca gaaaaacata 120
aagcaccttg aaaaagactt ggcagcttcc tgataaagcg tgctgtgctg tgcagtagga 180
acacatccta tttattgtga tggtgtgggt ttattatcta aactctgttc catacacttg 240

tataaataca tggatatttt tatgtacaga agtatgtctc ttaaccagtt ca 292

<210> 97
<211> 308
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_feature
<222> (46) (46)
<223> n is a, c, g, t, or u

<223> Description of Artificial Sequence: Human EST

<400> 97
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tccagccatt actaacctat tccttttttg gggaaatctg agcctagctc agaaaaacat 120
aaagcacctt gaaaaagact tggcagcttc ctgataaagc gtgctgtgct gtgcagtagg 180
aacacatcct atttattgtg atgttgtggt tttattatct taaactctgt tccatacact 240
tgtataaata catggatatt tttatgtaca gaagtatgtc tcttaaccag ttcacttatt 300
gtacctgg 308

<210> 98
<211> 1878
<212> DNA
<213> Homo sapiens

<400> 98
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gctggtgtgg ttctggtact gtaccaggaa aacagatttc taaaggaaat caaattagga 180
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tcttttgaga ggaggcctaa aggacaggag aaaaggctct caatcgtgga aagaaaatta 780
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gacattcaga tccagccatt actaacctat tccttttttg gggaaatctg agcctagctc 1680
agaaaaacat aaagcacctt gaaaaagact tggcagcttc ctgataaagc gtgctgtgct 1740
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<210> 99
<211> 113
<212> PRT
<213> Homo sapiens

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<400> 99
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Ser Cys Thr Pro Arg Asn Phe Ser Val Ser Ile Arg Glu Glu Leu Lys
20          25          30
Arg Thr Asp Thr Ile Phe Trp Pro Gly Cys Leu Leu Val Lys Arg Cys
35          40          45
Gly Gly Asn Cys Ala Cys Cys Leu His Asn Cys Asn Glu Cys Gln Cys
50          55          60
Val Pro Ser Lys Val Thr Lys Lys Tyr His Glu Val Leu Gln Leu Arg
65          70          75          80
Pro Lys Thr Gly Val Arg Gly Leu His Lys Ser Leu Thr Asp Val Ala
85          90          95

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Leu Glu His His Glu Glu Cys Asp Cys Val Cys Arg Gly Ser Thr Gly
 100 105 110

Gly

<210> 100

<211> 2475

<212> DNA

<213> Homo sapiens

<400> 100

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<210> 101
<211> 345
<212> PRT
<213> Homo sapiens

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<400> 101
Met Ser Leu Phe Gly Leu Leu Leu Leu Thr Ser Ala Leu Ala Gly Gln
1          5          10          15

Arg Gln Gly Thr Gln Ala Glu Ser Asn Leu Ser Ser Lys Phe Gln Phe
          20          25          30

Ser Ser Asn Lys Glu Gln Asn Gly Val Gln Asp Pro Gln His Glu Arg
          35          40          45

Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser Pro Arg Phe Pro
          50          55          60

His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp Arg Leu Val Ala Val
65          70          75          80

Glu Glu Asn Val Trp Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu
          85          90          95

Glu Asp Pro Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu
          100          105          110

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Glu Pro Ser Asp Gly Thr Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr
115 120 125

Val Pro Gly Lys Gln Ile Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe
130 135 140

Val Ser Asp Glu Tyr Phe Pro Ser Glu Pro Gly Phe Cys Ile His Tyr
145 150 155 160

Asn Ile Val Met Pro Gln Phe Thr Glu Ala Val Ser Pro Ser Val Leu
165 170 175

Pro Pro Ser Ala Leu Pro Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala
180 185 190

Phe Ser Thr Leu Glu Asp Leu Ile Arg Tyr Leu Glu Pro Glu Arg Trp
195 200 205

Gln Leu Asp Leu Glu Asp Leu Tyr Arg Pro Thr Trp Gln Leu Leu Gly
210 215 220

Lys Ala Phe Val Phe Gly Arg Lys Ser Arg Val Val Asp Leu Asn Leu
225 230 235 240

Leu Thr Glu Glu Val Arg Leu Tyr Ser Cys Thr Pro Arg Asn Phe Ser
245 250 255

Val Ser Ile Arg Glu Glu Leu Lys Arg Thr Asp Thr Ile Phe Trp Pro
260 265 270

Gly Cys Leu Leu Val Lys Arg Cys Gly Gly Asn Cys Ala Cys Cys Leu
275 280 285

His Asn Cys Asn Glu Cys Gln Cys Val Pro Ser Lys Val Thr Lys Lys
290 295 300

Tyr His Glu Val Leu Gln Leu Arg Pro Lys Thr Gly Val Arg Gly Leu
305 310 315 320

His Lys Ser Leu Thr Asp Val Ala Leu Glu His His Glu Glu Cys Asp
325 330 335

Cys Val Cys Arg Gly Ser Thr Gly Gly
340 345

<210> 102

<211> 2776

<212> DNA

<213> Homo sapiens

<400> 102

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accctgcgat tctctgctgc cagagcaggc tcggcgcttc caccctcagtg cagccttccc 180

ctggcggtgg tgaaagagac tcgggagtcg ctgcttccaa agtgcccgcc gtgagtgagc 240

tctcacccca gtcagccaaa tgagcctctt cgggcttctc ctgctgacat ctgccctggc 300

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taatggaagt	attcacagcc	caaggtttcc	tcatacttat	ccaagaaata	cggctcttgg	480
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<210> 103
<211> 345
<212> PRT
<213> Homo sapiens

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<400> 103
Met Ser Leu Phe Gly Leu Leu Leu Leu Thr Ser Ala Leu Ala Gly Gln
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Arg Gln Gly Thr Gln Ala Glu Ser Asn Leu Ser Ser Lys Phe Gln Phe
20 25 30

Ser Ser Asn Lys Glu Gln Tyr Gly Val Gln Asp Pro Gln His Glu Arg
35 40 45

Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser Pro Arg Phe Pro
50 55 60

His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp Arg Leu Val Ala Val
65 70 75 80

Glu Glu Asn Val Trp Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu
85 90 95

Glu Asp Pro Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu
100 105 110

Glu Pro Ser Asp Gly Thr Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr
115 120 125

Val Pro Gly Lys Gln Ile Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe
130 135 140

Val Ser Asp Glu Tyr Phe Pro Ser Glu Pro Gly Phe Cys Ile His Tyr
145 150 155 160

Asn Ile Val Met Pro Gln Phe Thr Glu Ala Val Ser Pro Ser Val Leu
165 170 175

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Pro Pro Ser Ala Leu Pro Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala
180 185 190

Phe Ser Thr Leu Glu Asp Leu Ile Arg Tyr Leu Glu Pro Glu Arg Trp
195 200 205

Gln Leu Asp Leu Glu Asp Leu Tyr Arg Pro Thr Trp Gln Leu Leu Gly
210 215 220

Lys Ala Phe Val Phe Gly Arg Lys Ser Arg Val Val Asp Leu Asn Leu
225 230 235 240

Leu Thr Glu Glu Val Arg Leu Tyr Ser Cys Thr Pro Arg Asn Phe Ser
245 250 255

Val Ser Ile Arg Glu Glu Leu Lys Arg Thr Asp Thr Ile Phe Trp Pro
260 265 270

Gly Cys Leu Leu Val Lys Arg Cys Gly Gly Asn Cys Ala Cys Cys Leu
275 280 285

His Asn Cys Asn Glu Cys Gln Cys Val Pro Ser Lys Val Thr Lys Lys
290 295 300

Tyr His Glu Val Leu Gln Leu Arg Pro Lys Thr Gly Val Arg Gly Leu
305 310 315 320

His Lys Ser Leu Thr Asp Val Ala Leu Glu His His Glu Glu Cys Asp
325 330 335

Cys Val Cys Arg Gly Ser Thr Gly Gly
340 345

<210> 104

<211> 1473

<212> DNA

<213> Homo sapiens

<400> 104

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gcttgaagac ccagaagatg acatatgcaa gtatgatttt gtagaagttg aggaaccag	600
tgatggaact atattagggc gctggtgtgg ttctggtact gtaccaggaa aacagatttc	660

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<210> 105
<211> 215
<212> PRT
<213> Homo sapiens

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<400> 105
Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu
1          5          10          15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly
          20          25          30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln
          35          40          45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu
          50          55          60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu
65          70          75          80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro
          85          90          95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His
          100          105          110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys
          115          120          125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Lys Ser Val
          130          135          140

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Arg Gly Lys Gly Lys Gly Gln Lys Arg Lys Arg Lys Lys Ser Arg Tyr
145 150 155 160

Lys Ser Trp Ser Val Pro Cys Gly Pro Cys Ser Glu Arg Arg Lys His
165 170 175

Leu Phe Val Gln Asp Pro Gln Thr Cys Lys Cys Ser Cys Lys Asn Thr
180 185 190

Asp Ser Arg Cys Lys Ala Arg Gln Leu Glu Leu Asn Glu Arg Thr Cys
195 200 205

Arg Cys Asp Lys Pro Arg Arg
210 215

<210> 106

<211> 149

<212> PRT

<213> Homo sapiens

<400> 106

Met Pro Val Met Arg Leu Phe Pro Cys Phe Leu Gln Leu Leu Ala Gly
1 5 10 15

Leu Ala Leu Pro Ala Val Pro Pro Gln Gln Trp Ala Leu Ser Ala Gly
20 25 30

Asn Gly Ser Ser Glu Val Glu Val Val Pro Phe Gln Glu Val Trp Gly
35 40 45

Arg Ser Tyr Cys Arg Ala Leu Glu Arg Leu Val Asp Val Val Ser Glu
50 55 60

Tyr Pro Ser Glu Val Glu His Met Phe Ser Pro Ser Cys Val Ser Leu
65 70 75 80

Leu Arg Cys Thr Gly Cys Cys Gly Asp Glu Asn Leu His Cys Val Pro
85 90 95

Val Glu Thr Ala Asn Val Thr Met Gln Leu Leu Lys Ile Arg Ser Gly
100 105 110

Asp Arg Pro Ser Tyr Val Glu Leu Thr Phe Ser Gln His Val Arg Cys
115 120 125

Glu Cys Arg Pro Leu Arg Glu Lys Met Lys Pro Glu Arg Cys Gly Asp
130 135 140

Ala Val Pro Arg Arg
145

<210> 107

<211> 188

<212> PRT

<213> Homo sapiens

<400> 107

Met Ser Pro Leu Leu Arg Arg Leu Leu Leu Ala Ala Leu Leu Gln Leu
1 5 10 15

Ala Pro Ala Gln Ala Pro Val Ser Gln Pro Asp Ala Pro Gly His Gln
20 25 30

Arg Lys Val Val Ser Trp Ile Asp Val Tyr Thr Arg Ala Thr Cys Gln
35 40 45

Pro Arg Glu Val Val Val Pro Leu Thr Val Glu Leu Met Gly Thr Val
50 55 60

Ala Lys Gln Leu Val Pro Ser Cys Val Thr Val Gln Arg Cys Gly Gly
65 70 75 80

Cys Cys Pro Asp Asp Gly Leu Glu Cys Val Pro Thr Gly Gln His Gln
85 90 95

Val Arg Met Gln Ile Leu Met Ile Arg Tyr Pro Ser Ser Gln Leu Gly
100 105 110

Glu Met Ser Leu Glu Glu His Ser Gln Cys Glu Cys Arg Pro Lys Lys
115 120 125

Lys Asp Ser Ala Val Lys Pro Asp Ser Pro Arg Pro Leu Cys Pro Arg
130 135 140

Cys Thr Gln His His Gln Arg Pro Asp Pro Arg Thr Cys Arg Cys Arg
145 150 155 160

Cys Arg Arg Arg Ser Phe Leu Arg Cys Gln Gly Arg Gly Leu Glu Leu
165 170 175

Asn Pro Asp Thr Cys Arg Cys Arg Lys Leu Arg Arg
180 185

<210> 108
<211> 419
<212> PRT
<213> Homo sapiens

<400> 108
Met His Leu Leu Gly Phe Phe Ser Val Ala Cys Ser Leu Leu Ala Ala
1 5 10 15

Ala Leu Leu Pro Gly Pro Arg Glu Ala Pro Ala Ala Ala Ala Phe
20 25 30

Glu Ser Gly Leu Asp Leu Ser Asp Ala Glu Pro Asp Ala Gly Glu Ala
35 40 45

Thr Ala Tyr Ala Ser Lys Asp Leu Glu Glu Gln Leu Arg Ser Val Ser
50 55 60

Ser Val Asp Glu Leu Met Thr Val Leu Tyr Pro Glu Tyr Trp Lys Met
65 70 75 80

Tyr Lys Cys Gln Leu Arg Lys Gly Gly Trp Gln His Asn Arg Glu Gln
85 90 95

Ala Asn Leu Asn Ser Arg Thr Glu Glu Thr Ile Lys Phe Ala Ala Ala
100 105 110

His	Tyr	Asn	Thr	Glu	Ile	Leu	Lys	Ser	Ile	Asp	Asn	Glu	Trp	Arg	Lys	115	120	125
Thr	Gln	Cys	Met	Pro	Arg	Glu	Val	Cys	Ile	Asp	Val	Gly	Lys	Glu	Phe	130	135	140
Gly	Val	Ala	Thr	Asn	Thr	Phe	Phe	Lys	Pro	Pro	Cys	Val	Ser	Val	Tyr	145	150	155
Arg	Cys	Gly	Gly	Cys	Cys	Asn	Ser	Glu	Gly	Leu	Gln	Cys	Met	Asn	Thr	165	170	175
Ser	Thr	Ser	Tyr	Leu	Ser	Lys	Thr	Leu	Phe	Glu	Ile	Thr	Val	Pro	Leu	180	185	190
Ser	Gln	Gly	Pro	Lys	Pro	Val	Thr	Ile	Ser	Phe	Ala	Asn	His	Thr	Ser	195	200	205
Cys	Arg	Cys	Met	Ser	Lys	Leu	Asp	Val	Tyr	Arg	Gln	Val	His	Ser	Ile	210	215	220
Ile	Arg	Arg	Ser	Leu	Pro	Ala	Thr	Leu	Pro	Gln	Cys	Gln	Ala	Ala	Asn	225	230	235
Lys	Thr	Cys	Pro	Thr	Asn	Tyr	Met	Trp	Asn	Asn	His	Ile	Cys	Arg	Cys	245	250	255
Leu	Ala	Gln	Glu	Asp	Phe	Met	Phe	Ser	Ser	Asp	Ala	Gly	Asp	Asp	Ser	260	265	270
Thr	Asp	Gly	Phe	His	Asp	Ile	Cys	Gly	Pro	Asn	Lys	Glu	Leu	Asp	Glu	275	280	285
Glu	Thr	Cys	Gln	Cys	Val	Cys	Arg	Ala	Gly	Leu	Arg	Pro	Ala	Ser	Cys	290	295	300
Gly	Pro	His	Lys	Glu	Leu	Asp	Arg	Asn	Ser	Cys	Gln	Cys	Val	Cys	Lys	305	310	315
Asn	Lys	Leu	Phe	Pro	Ser	Gln	Cys	Gly	Ala	Asn	Arg	Glu	Phe	Asp	Glu	325	330	335
Asn	Thr	Cys	Gln	Cys	Val	Cys	Lys	Arg	Thr	Cys	Pro	Arg	Asn	Gln	Pro	340	345	350
Leu	Asn	Pro	Gly	Lys	Cys	Ala	Cys	Glu	Cys	Thr	Glu	Ser	Pro	Gln	Lys	355	360	365
Cys	Leu	Leu	Lys	Gly	Lys	Lys	Phe	His	His	Gln	Thr	Cys	Ser	Cys	Tyr	370	375	380
Arg	Arg	Pro	Cys	Thr	Asn	Arg	Gln	Lys	Ala	Cys	Glu	Pro	Gly	Phe	Ser	385	390	395
Tyr	Ser	Glu	Glu	Val	Cys	Arg	Cys	Val	Pro	Ser	Tyr	Trp	Lys	Arg	Pro	405	410	415
Gln	Met	Ser																

<210> 109
 <211> 354
 <212> PRT
 <213> Homo sapiens

<400> 109

Met	Tyr	Arg	Glu	Trp	Val	Val	Val	Asn	Val	Phe	Met	Met	Leu	Tyr	Val
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Gln	Leu	Val	Gln	Gly	Ser	Ser	Asn	Glu	His	Gly	Pro	Val	Lys	Arg	Ser
			20					25					30		
Ser	Gln	Ser	Thr	Leu	Glu	Arg	Ser	Glu	Gln	Gln	Ile	Arg	Ala	Ala	Ser
		35					40					45			
Ser	Leu	Glu	Glu	Leu	Leu	Arg	Ile	Thr	His	Ser	Glu	Asp	Trp	Lys	Leu
	50					55					60				
Trp	Arg	Cys	Arg	Leu	Arg	Leu	Lys	Ser	Phe	Thr	Ser	Met	Asp	Ser	Arg
65					70					75					80
Ser	Ala	Ser	His	Arg	Ser	Thr	Arg	Phe	Ala	Ala	Thr	Phe	Tyr	Asp	Ile
				85					90					95	
Glu	Thr	Leu	Lys	Val	Ile	Asp	Glu	Glu	Trp	Gln	Arg	Thr	Gln	Cys	Ser
			100					105					110		
Pro	Arg	Glu	Thr	Cys	Val	Glu	Val	Ala	Ser	Glu	Leu	Gly	Lys	Ser	Thr
		115					120					125			
Asn	Thr	Phe	Phe	Lys	Pro	Pro	Cys	Val	Asn	Val	Phe	Arg	Cys	Gly	Gly
	130					135					140				
Cys	Cys	Asn	Glu	Glu	Ser	Leu	Ile	Cys	Met	Asn	Thr	Ser	Thr	Ser	Tyr
145					150					155					160
Ile	Ser	Lys	Gln	Leu	Phe	Glu	Ile	Ser	Val	Pro	Leu	Thr	Ser	Val	Pro
				165					170					175	
Glu	Leu	Val	Pro	Val	Lys	Val	Ala	Asn	His	Thr	Gly	Cys	Lys	Cys	Leu
			180					185					190		
Pro	Thr	Ala	Pro	Arg	His	Pro	Tyr	Ser	Ile	Ile	Arg	Arg	Ser	Ile	Gln
		195					200					205			
Ile	Pro	Glu	Glu	Asp	Arg	Cys	Ser	His	Ser	Lys	Lys	Leu	Cys	Pro	Ile
	210					215					220				
Asp	Met	Leu	Trp	Asp	Ser	Asn	Lys	Cys	Lys	Cys	Val	Leu	Gln	Glu	Glu
225					230					235					240
Asn	Pro	Leu	Ala	Gly	Thr	Glu	Asp	His	Ser	His	Leu	Gln	Glu	Pro	Ala
				245					250					255	
Leu	Cys	Gly	Pro	His	Met	Met	Phe	Asp	Glu	Asp	Arg	Cys	Glu	Cys	Val
			260					265					270		
Cys	Lys	Thr	Pro	Cys	Pro	Lys	Asp	Leu	Ile	Gln	His	Pro	Lys	Asn	Cys
		275					280					285			
Ser	Cys	Phe	Glu	Cys	Lys	Glu	Ser	Leu	Glu	Thr	Cys	Cys	Gln	Lys	His
	290					295					300				

Lys Leu Phe His Pro Asp Thr Cys Ser Cys Glu Asp Arg Cys Pro Phe
305 310 315 320

His Thr Arg Pro Cys Ala Ser Gly Lys Thr Ala Cys Ala Lys His Cys
325 330 335

Arg Phe Pro Lys Glu Lys Arg Ala Ala Gln Gly Pro His Ser Arg Lys
340 345 350

Asn Pro

<210> 110

<211> 345

<212> PRT

<213> Homo sapiens

<400> 110

Met Ser Leu Phe Gly Leu Leu Leu Leu Thr Ser Ala Leu Ala Gly Gln
1 5 10 15

Arg Gln Gly Thr Gln Ala Glu Ser Asn Leu Ser Ser Lys Phe Gln Phe
20 25 30

Ser Ser Asn Lys Glu Gln Asn Gly Val Gln Asp Pro Gln His Glu Arg
35 40 45

Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser Pro Arg Phe Pro
50 55 60

His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp Arg Leu Val Ala Val
65 70 75 80

Glu Glu Asn Val Trp Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu
85 90 95

Glu Asp Pro Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu
100 105 110

Glu Pro Ser Asp Gly Thr Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr
115 120 125

Val Pro Gly Lys Gln Ile Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe
130 135 140

Val Ser Asp Glu Tyr Phe Pro Ser Glu Pro Gly Phe Cys Ile His Tyr
145 150 155 160

Asn Ile Val Met Pro Gln Phe Thr Glu Ala Val Ser Pro Ser Val Leu
165 170 175

Pro Pro Ser Ala Leu Pro Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala
180 185 190

Phe Ser Thr Leu Glu Asp Leu Ile Arg Tyr Leu Glu Pro Glu Arg Trp
195 200 205

Gln Leu Asp Leu Glu Asp Leu Tyr Arg Pro Thr Trp Gln Leu Leu Gly
210 215 220

Lys Ala Phe Val Phe Gly Arg Lys Ser Arg Val Val Asp Leu Asn Leu
225 230 235 240

Leu Thr Glu Glu Val Arg Leu Tyr Ser Cys Thr Pro Arg Asn Phe Ser
245 250 255

Val Ser Ile Arg Glu Glu Leu Lys Arg Thr Asp Thr Ile Phe Trp Pro
260 265 270

Gly Cys Leu Leu Val Lys Arg Cys Gly Gly Asn Cys Ala Cys Cys Leu
275 280 285

His Asn Cys Asn Glu Cys Gln Cys Val Pro Ser Lys Val Thr Lys Lys
290 295 300

Tyr His Glu Val Leu Gln Leu Arg Pro Lys Thr Gly Val Arg Gly Leu
305 310 315 320

His Lys Ser Leu Thr Asp Val Ala Leu Glu His His Glu Glu Cys Asp
325 330 335

Cys Val Cys Arg Gly Ser Thr Gly Gly
340 345

<210> 111

<211> 167

<212> PRT

<213> Homo sapiens

<400> 111

Met Ser Leu Phe Gly Leu Leu Leu Leu Thr Ser Ala Leu Ala Gly Gln
1 5 10 15

Arg Gln Gly Thr Gln Ala Glu Ser Asn Leu Ser Ser Lys Phe Gln Phe
20 25 30

Ser Ser Asn Lys Glu Gln Asn Gly Val Gln Asp Pro Gln His Glu Arg
35 40 45

Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser Pro Arg Phe Pro
50 55 60

His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp Arg Leu Val Ala Val
65 70 75 80

Glu Glu Asn Val Trp Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu
85 90 95

Glu Asp Pro Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu
100 105 110

Glu Pro Ser Asp Gly Thr Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr
115 120 125

Val Pro Gly Lys Gln Ile Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe
130 135 140

Val Ser Asp Glu Tyr Phe Pro Ser Glu Pro Ser Asn Arg Gly Gly Lys
145 150 155 160

Ile Ile Gln Leu His Thr Ser
165

<210> 112
<211> 282
<212> PRT
<213> Homo sapiens

<400> 112
Met Ser Leu Phe Gly Leu Leu Leu Leu Thr Ser Ala Leu Ala Gly Gln
1 5 10 15

Arg Gln Gly Thr Gln Ala Glu Ser Asn Leu Ser Ser Lys Phe Gln Phe
20 25 30

Ser Ser Asn Lys Glu Gln Asn Gly Val Gln Asp Pro Gln His Glu Arg
35 40 45

Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser Pro Arg Phe Pro
50 55 60

His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp Arg Leu Val Ala Val
65 70 75 80

Glu Glu Asn Val Trp Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu
85 90 95

Glu Asp Pro Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu
100 105 110

Glu Pro Ser Asp Gly Thr Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr
115 120 125

Val Pro Gly Lys Gln Ile Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe
130 135 140

Val Ser Asp Glu Tyr Phe Pro Ser Glu Pro Gly Phe Cys Ile His Tyr
145 150 155 160

Asn Ile Val Met Pro Gln Phe Thr Glu Ala Val Ser Pro Ser Val Leu
165 170 175

Pro Pro Ser Ala Leu Pro Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala
180 185 190

Phe Ser Thr Leu Glu Asp Leu Ile Arg Tyr Leu Glu Pro Glu Arg Trp
195 200 205

Gln Leu Asp Leu Glu Asp Leu Tyr Arg Pro Thr Trp Gln Leu Leu Gly
210 215 220

Lys Ala Phe Val Phe Gly Arg Lys Ser Arg Val Val Asp Leu Asn Leu
225 230 235 240

Leu Thr Glu Glu Val Leu Gln Leu Arg Pro Lys Thr Gly Val Arg Gly
245 250 255

Leu His Lys Ser Leu Thr Asp Val Ala Leu Glu His His Glu Glu Cys
260 265 270

Asp Cys Val Cys Arg Gly Ser Thr Gly Gly
275 280

<210> 113
<211> 822
<212> DNA
<213> Homo sapiens

<400> 113
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cagaggaggt aagattatac agctgcacac ctcgtaactt ctcagtgtcc ataaggggaag 120
aactaaagag aaccgatacc attttctggc cagggtgtct cctgggttaa cgctgtggtg 180
ggaactgtgc ctgttgtctc cacaattgca atgaatgtca atgtgtccca agcaaagtta 240
ctaaaaaata ccacgaggtc cttcagttga gaccaaagac cgggtgtcagg ggattgcaca 300
aatcactcac cgacgtggcc ctggagcacc atgaggagtg tgactgtgtg tgcagagggg 360
gcacaggagg atagccgcat caccaccagc agctcttgcc cagagctgtg cagtgcagtg 420
gctgattcta ttagagaacg tatgcgttat ctccatcctt aatctcagtt gtttgcttca 480
aggacctttc atcttcagga tttacagtgc attctgaaag aggagacatc aaacagaatt 540
aggagtgtg caacagctct tttgagagga ggcctaaagg acaggagaaa aggtcttcaa 600
tcgtggaaag aaaattaaat gttgtattaa atagatcacc agctagtttc agagttacca 660
tgtacgtatt ccactagctg ggttctgtat ttcagttctt tcgatacggc ttagggtaat 720
gtcagtacag gaaaaaaact gtgcaagtga gcacctgatt ccgttgccct ggcttaactc 780
taaagctcca tgtcctgggc ctaaaatcgt ataaaatctg ga 822

<210> 114
<211> 227
<212> PRT
<213> Homo sapiens

<400> 114
Met Asn Ile Phe Leu Leu Asn Leu Leu Thr Glu Glu Val Arg Leu Tyr
1 5 10 15
Ser Cys Thr Pro Arg Asn Phe Ser Val Ser Ile Arg Glu Glu Leu Lys
20 25 30
Arg Thr Asp Thr Ile Phe Trp Pro Gly Cys Leu Leu Val Lys Arg Cys
35 40 45
Gly Gly Asn Cys Ala Cys Cys Leu His Asn Cys Asn Glu Cys Gln Cys
50 55 60
Val Pro Ser Lys Val Thr Lys Lys Tyr His Glu Val Leu Gln Leu Arg
65 70 75 80
Pro Lys Thr Gly Val Arg Gly Leu His Lys Ser Leu Thr Asp Val Ala
85 90 95

Val Ser Gly Asp Cys Thr Asn His Ser Pro Thr Trp Pro Leu Glu His
100 105 110

His Glu Glu Cys Asp Cys Val Cys Arg Gly Ser Thr Gly Gly Val Gln
115 120 125

Arg Glu His Arg Arg Ile Ala Ala Ser Pro Pro Ala Ala Leu Ala Trp
130 135 140

Ser Thr Met Arg Ser Val Thr Val Cys Ala Glu Gly Ala Gln Glu Asp
145 150 155 160

Ser Arg Ile Thr Thr Ser Ser Ser Cys Gln Ser Cys Ala Val Gln Trp
165 170 175

Leu Ile Leu Leu Glu Asn Val Cys Val Ile Ser Ile Leu Asn Leu Ser
180 185 190

Cys Leu Leu Gln Pro Glu Leu Cys Ser Ala Val Ala Asp Ser Ile Arg
195 200 205

Glu Arg Met Arg Tyr Leu His Pro Gly Pro Phe Ile Phe Arg Ile Tyr
210 215 220

Ser Ala Phe
225

<210> 115
<211> 1716
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (830)..(830)
<223> n is a, c, g, t, or u

<400> 115
aggaaatcaa attaggataa gatttgtatc tgatgaatat tttccttctg aaccttctaa 60
cagaggaggt aagattatac agctgcacac ctcgtaactt ctcagtgtcc ataaggggaag 120
aactaaagag aaccgatacc attttctggc caggttgtct cctgggttaa cgctgtggtg 180
ggaactgtgc ctgttgtctc cacaattgca atgaatgtca atgtgtccca agcaaagtta 240
ctaaaaaata ccacgaggtc cttcagttga gaccaaagac cgggtgtcagg ggattgcaca 300
aatcactcac cgacgtggcc ctggagcacc atgaggagtg tgactgtgtg tgcagagggga 360
gcacaggagg atagccgcat caccaccagc agctcttgcc cagagctgtg cagtgcagtg 420
gctgattcta ttagagaacg tatgcgttat ctccatcctt aatctcagtt gtttgcttca 480
aggacctttc atcttcagga tttacagtgc attctgaaag aggagacatc aaacagaatt 540
aggagtgtgt caacagctct tttgagagga ggcctaaagg acaggagaaa aggtcttcaa 600
tcgtggaaag aaaattaaat gttgtattaa atagatcacc agctagtttc agagttacca 660
tgtacgtatt ccactagctg gggtctgtat ttcagttctt tcgatacggc ttagggtaat 720

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gtcagtacag gaaaaaaact gtgcaagtga gcacctgatt ccgttgccct ggcttaactc      780
taaagctcca tgtcctgggc ctaaaatcgt ataaaatctg gatttttttn tttttttttg      840
cgcatattca catatgtaaa ccagaacatt ctatgtacta caaacctggg ttttaaaaag      900
gaactatggt gctatgaatt aaacttgtgt cgtgctgata ggacagactg gatttttcat      960
atttcttatt aaaatttctg ccatttagaa gaagagaact acattcatgg tttggaagag     1020
ataaacctga aaagaagagt ggctttatct tcactttatc gataagtcag tttatttgtt     1080
tcattgtgta cattttttata ttctcctttt gacattataa ctggttgccct ttctaactct     1140
gttaaataata tctattttta ccaaaggtat ttaatattct tttttatgac aacttagatc     1200
aactattttt agcttggtaa atttttctaa acacaattgt tatagccaga ggaacaaaga     1260
tgatataaaa tattgttgct ctgacaaaaa tacatgtatt tcattctcgt atggtgctag     1320
agttagatta atctgcattt taaaaaactg aattggaata gaattggtaa gttgcaaaga     1380
ctttttgaaa ataattaaat tatcatatct tccattcctg ttattggaga tgaaaataaa     1440
aagcaactta tgaaagtaga cattcagatc cagccattac taacctattc cttttttggg     1500
gaaatctgag cctagctcag aaaaacataa agcaccttga aaaagacttg gcagcttcct     1560
gataaagcgt gctgtgctgt gcagtaggaa cacatcctat ttattgtgat gttgtggttt     1620
tattatctta aactctgttc catacacttg tataaataca tggatatttt tatgtacaga     1680
agtatgtctc ttaaccagtt cacttattgt acctgg                                1716

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<210> 116
<211> 227
<212> PRT
<213> Homo sapiens

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<400> 116
Met Asn Ile Phe Leu Leu Asn Leu Leu Thr Glu Glu Val Arg Leu Tyr
1          5          10          15

Ser Cys Thr Pro Arg Asn Phe Ser Val Ser Ile Arg Glu Glu Leu Lys
          20          25          30

Arg Thr Asp Thr Ile Phe Trp Pro Gly Cys Leu Leu Val Lys Arg Cys
          35          40          45

Gly Gly Asn Cys Ala Cys Cys Leu His Asn Cys Asn Glu Cys Gln Cys
          50          55          60

Val Pro Ser Lys Val Thr Lys Lys Tyr His Glu Val Leu Gln Leu Arg
65          70          75          80

Pro Lys Thr Gly Val Arg Gly Leu His Lys Ser Leu Thr Asp Val Ala
          85          90          95

Val Ser Gly Asp Cys Thr Asn His Ser Pro Thr Trp Pro Leu Glu His
          100          105          110

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His Glu Glu Cys Asp Cys Val Cys Arg Gly Ser Thr Gly Gly Val Gln
115 120 125

Arg Glu His Arg Arg Ile Ala Ala Ser Pro Pro Ala Ala Leu Ala Trp
130 135 140

Ser Thr Met Arg Ser Val Thr Val Cys Ala Glu Gly Ala Gln Glu Asp
145 150 155 160

Ser Arg Ile Thr Thr Ser Ser Ser Cys Gln Ser Cys Ala Val Gln Trp
165 170 175

Leu Ile Leu Leu Glu Asn Val Cys Val Ile Ser Ile Leu Asn Leu Ser
180 185 190

Cys Leu Leu Gln Pro Glu Leu Cys Ser Ala Val Ala Asp Ser Ile Arg
195 200 205

Glu Arg Met Arg Tyr Leu His Pro Gly Pro Phe Ile Phe Arg Ile Tyr
210 215 220

Ser Ala Phe
225

<210> 117
<211> 1134
<212> DNA
<213> Homo sapiens

<400> 117
ggatccaaaa tgagcctctt cgggcttctc ctgctgacat ctgccctggc cggccagaga 60
caggggactc aggcggaatc caacctgagt agtaaattcc agttttccag caacaaggaa 120
cagaacggag tacaagatcc tcagcatgag agaattatta ctgtgtctac taatggaagt 180
attcacagcc caaggtttcc tcatacttat ccaagaaata cggctcttggg atggagatta 240
gtagcagtag aggaaaatgt atggatacaa cttacgtttg atgaaagatt tgggcttgaa 300
gacccagaag atgacatatg caagtatgat tttgtagaag ttgaggaacc cagtgatgga 360
actatattag ggcgctgggt tggttctggg actgtaccag gaaaacagat ttctaaagga 420
aatcaaatta ggataagatt tgtatctgat gaatatcttc cttctgaacc agggttctgc 480
atccactaca acattgtcat gccacaattc acagaagctg tgagtccttc agtgctaccc 540
ccttcagctt tgccactgga cctgcttaat aatgctataa ctgccttttag taccttgga 600
gaccttattc gatatcttga accagagaga tggcagttgg acttagaaga tctatatagg 660
ccaacttggc aacttcttgg caaggctttt gtttttggaa gaaaatccag agtgggtggat 720
ctgaaccttc taacagagga ggtaagatta tacagctgca cacctcgtaa cttctcagtg 780
tcataaagg aagaactaaa gagaaccgat accattttct ggccaggttg tctcctgggt 840
aaacgctgtg gtgggaactg tgctgttgt ctccacaatt gcaatgaatg tcaatgtgtc 900
ccaagcaaag ttactaaaaa ataccacgag gtccttcagt tgagaccaa gaccggtgtc 960

aggggattgc acaaatact caccgacgtg gccctggagc accatgagga gtgtgactgt 1020
 gtgtgcagag ggagcacagg aggatctaga gggcccttcg aaggtaagcc tatccctaac 1080
 cctctcctcg gtctcgattc tacgcgtacc ggtcatcatc accatcacca ttga 1134

<210> 118
 <211> 374
 <212> PRT
 <213> Homo sapiens

<400> 118
 Met Ser Leu Phe Gly Leu Leu Leu Leu Thr Ser Ala Leu Ala Gly Gln
 1 5 10 15
 Arg Gln Gly Thr Gln Ala Glu Ser Asn Leu Ser Ser Lys Phe Gln Phe
 20 25 30
 Ser Ser Asn Lys Glu Gln Asn Gly Val Gln Asp Pro Gln His Glu Arg
 35 40 45
 Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser Pro Arg Phe Pro
 50 55 60
 His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp Arg Leu Val Ala Val
 65 70 75 80
 Glu Glu Asn Val Trp Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu
 85 90 95
 Glu Asp Pro Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu
 100 105 110
 Glu Pro Ser Asp Gly Thr Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr
 115 120 125
 Val Pro Gly Lys Gln Ile Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe
 130 135 140
 Val Ser Asp Glu Tyr Phe Pro Ser Glu Pro Gly Phe Cys Ile His Tyr
 145 150 155 160
 Asn Ile Val Met Pro Gln Phe Thr Glu Ala Val Ser Pro Ser Val Leu
 165 170 175
 Pro Pro Ser Ala Leu Pro Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala
 180 185 190
 Phe Ser Thr Leu Glu Asp Leu Ile Arg Tyr Leu Glu Pro Glu Arg Trp
 195 200 205
 Gln Leu Asp Leu Glu Asp Leu Tyr Arg Pro Thr Trp Gln Leu Leu Gly
 210 215 220
 Lys Ala Phe Val Phe Gly Arg Lys Ser Arg Val Val Asp Leu Asn Leu
 225 230 235 240
 Leu Thr Glu Glu Val Arg Leu Tyr Ser Cys Thr Pro Arg Asn Phe Ser
 245 250 255

Val Ser Ile Arg Glu Glu Leu Lys Arg Thr Asp Thr Ile Phe Trp Pro
260 265 270

Gly Cys Leu Leu Val Lys Arg Cys Gly Gly Asn Cys Ala Cys Cys Leu
275 280 285

His Asn Cys Asn Glu Cys Gln Cys Val Pro Ser Lys Val Thr Lys Lys
290 295 300

Tyr His Glu Val Leu Gln Leu Arg Pro Lys Thr Gly Val Arg Gly Leu
305 310 315 320

His Lys Ser Leu Thr Asp Val Ala Leu Glu His His Glu Glu Cys Asp
325 330 335

Cys Val Cys Arg Gly Ser Thr Gly Gly Ser Arg Gly Pro Phe Glu Gly
340 345 350

Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
355 360 365

His His His His His His
370

<210> 119
<211> 1134
<212> DNA
<213> Homo sapiens

<400> 119
gaattcaaag gcctgtattt tactgttttc gtaacagttt tgtaataaaa aaacctataa 60
atatgaaatt cttagtcaac gttgcccttg tttttatggg cgtatacatt tcttacatct 120
atgcgggatcc ggagtctcac catcaccacc atcatgaatc caacctgagt agtaaattcc 180
agttttccag caacaaggaa cagaacggag tacaagatcc tcagcatgag agaattatta 240
ctgtgtctac taatggaagt attcacagcc caaggtttcc tcatacttat ccaagaaata 300
cggctcttgg atggagatta gtagcagtag aggaaaatgt atggatacaa cttacgtttg 360
atgaaagatt tgggcttgaa gaccagaag atgacatatg caagtatgat tttgtagaag 420
ttgaggaacc cagtgatgga actatattag ggcgctggg tggttctggg actgtaccag 480
gaaaacagat ttctaaagga aatcaaatta ggataagatt tgtatctgat gaatattttc 540
cttctgaacc aggttctgc atccactaca acattgtcat gccacaattc acagaagctg 600
tgagtccttc agtgctaccc ccttcagctt tgccactgga cctgcttaat aatgctataa 660
ctgccttttag taccttgga gaccttattc gatatcttga accagagaga tggcagttgg 720
acttagaaga tctatatagg ccaacttggc aacttcttgg caaggctttt gtttttggaa 780
gaaaatccag agtggtggat ctgaaccttc taacagagga ggtaagatta tacagctgca 840
cacctcgtaa cttctcagtg tccataaggg aagaactaaa gagaaccgat accattttct 900
ggccagggtg tctcctgggt aaacgctgtg gtgggaactg tgccgtgtgt ctccacaatt 960

gcaatgaatg tcaatgtgtc ccaagcaaag ttactaaaaa ataccacgag gtccttcagt 1020
 tgagaccaaa gaccggtgtc aggggattgc acaaatcact caccgacgtg gccctggagc 1080
 accatgagga gtgtgactgt gtgtgcagag ggagcacagg aggatagctc taga 1134

<210> 120
 <211> 354
 <212> PRT
 <213> Homo sapiens

<400> 120
 Met Lys Phe Leu Val Asn Val Ala Leu Val Phe Met Val Val Tyr Ile
 1 5 10 15
 Ser Tyr Ile Tyr Ala Asp Pro Glu Ser His His His His His His Glu
 20 25 30
 Ser Asn Leu Ser Ser Lys Phe Gln Phe Ser Ser Asn Lys Glu Gln Asn
 35 40 45
 Gly Val Gln Asp Pro Gln His Glu Arg Ile Ile Thr Val Ser Thr Asn
 50 55 60
 Gly Ser Ile His Ser Pro Arg Phe Pro His Thr Tyr Pro Arg Asn Thr
 65 70 75 80
 Val Leu Val Trp Arg Leu Val Ala Val Glu Glu Asn Val Trp Ile Gln
 85 90 95
 Leu Thr Phe Asp Glu Arg Phe Gly Leu Glu Asp Pro Glu Asp Asp Ile
 100 105 110
 Cys Lys Tyr Asp Phe Val Glu Val Glu Glu Pro Ser Asp Gly Thr Ile
 115 120 125
 Leu Gly Arg Trp Cys Gly Ser Gly Thr Val Pro Gly Lys Gln Ile Ser
 130 135 140
 Lys Gly Asn Gln Ile Arg Ile Arg Phe Val Ser Asp Glu Tyr Phe Pro
 145 150 155 160
 Ser Glu Pro Gly Phe Cys Ile His Tyr Asn Ile Val Met Pro Gln Phe
 165 170 175
 Thr Glu Ala Val Ser Pro Ser Val Leu Pro Pro Ser Ala Leu Pro Leu
 180 185 190
 Asp Leu Leu Asn Asn Ala Ile Thr Ala Phe Ser Thr Leu Glu Asp Leu
 195 200 205
 Ile Arg Tyr Leu Glu Pro Glu Arg Trp Gln Leu Asp Leu Glu Asp Leu
 210 215 220
 Tyr Arg Pro Thr Trp Gln Leu Leu Gly Lys Ala Phe Val Phe Gly Arg
 225 230 235 240
 Lys Ser Arg Val Val Asp Leu Asn Leu Leu Thr Glu Glu Val Arg Leu
 245 250 255

Tyr Ser Cys Thr Pro Arg Asn Phe Ser Val Ser Ile Arg Glu Glu Leu
260 265 270

Lys Arg Thr Asp Thr Ile Phe Trp Pro Gly Cys Leu Leu Val Lys Arg
275 280 285

Cys Gly Gly Asn Cys Ala Cys Cys Leu His Asn Cys Asn Glu Cys Gln
290 295 300

Cys Val Pro Ser Lys Val Thr Lys Lys Tyr His Glu Val Leu Gln Leu
305 310 315 320

Arg Pro Lys Thr Gly Val Arg Gly Leu His Lys Ser Leu Thr Asp Val
325 330 335

Ala Leu Glu His His Glu Glu Cys Asp Cys Val Cys Arg Gly Ser Thr
340 345 350

Gly Gly

<210> 121
<211> 1097
<212> DNA
<213> Homo sapiens

<400> 121
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gaggggaagga ttccagaatt cgaatccaac ctgagtagta aattccagtt ttccagcaac 120
aaggaacaga acggagtaca agatcctcag catgagagaa ttattactgt gtctactaat 180
ggaagtattc acagcccaag gtttcctcat acttatccaa gaaatacggc cttggtatgg 240
agattagtag cagtagagga aaatgtatgg atacaactta cgtttgatga aagatttggg 300
cttgaagacc cagaagatga catatgcaag tatgattttg tagaagttga ggaaccagct 360
gatggaacta tattagggcg ctggtgtggt tctggtactg taccaggaaa acagatttct 420
aaaggaaatc aaattaggat aagatttcta tctgatgaat attttccttc tgaaccaggg 480
ttctgcatcc actacaacat tgtcatgcca caattcacag aagctgtgag tccttcagtg 540
ctaccccctt cagctttgcc actggacctg cttataaatg ctataactgc ctttagtacc 600
ttggaagacc ttattcgata tcttgaacca gagagatggc agttggactt agaagatcta 660
tataggccaa cttggcaact tcttggcaag gcttttgttt ttggaagaaa atccagagtg 720
gtggatctga accttctaac agaggaggta agattataca gctgcacacc tcgtaacttc 780
tcagtgtcca taagggaaga actaaagaga accgatacca ttttctggcc aggttgtctc 840
ctggttaaac gctgtggtgg gaactgtgcc tggtgtctcc acaattgcaa tgaatgtcaa 900
tgtgtcccaa gcaaagttac taaaaaatac cagcaggtcc ttcagttgag accaaagacc 960
ggtgtcaggg gattgcacaa atcactcacc gacgtggccc tggagcacca tgaggagtgt 1020

gactgtgtgt gcagagggag cacaggagga catcatcacc atcaccattg atctagagtc 1080

gacctgcagg caagctt 1097

<210> 122
<211> 355
<212> PRT
<213> Homo sapiens

<400> 122
Gln Thr Asn Ser Ser Ser Asn Asn Asn Asn Asn Asn Asn Asn Asn Asn
1 5 10 15
Leu Gly Ile Glu Gly Arg Ile Ser Glu Phe Glu Ser Asn Leu Ser Ser
20 25 30
Lys Phe Gln Phe Ser Ser Asn Lys Glu Gln Asn Gly Val Gln Asp Pro
35 40 45
Gln His Glu Arg Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser
50 55 60
Pro Arg Phe Pro His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp Arg
65 70 75 80
Leu Val Ala Val Glu Glu Asn Val Trp Ile Gln Leu Thr Phe Asp Glu
85 90 95
Arg Phe Gly Leu Glu Asp Pro Glu Asp Asp Ile Cys Lys Tyr Asp Phe
100 105 110
Val Glu Val Glu Glu Pro Ser Asp Gly Thr Ile Leu Gly Arg Trp Cys
115 120 125
Gly Ser Gly Thr Val Pro Gly Lys Gln Ile Ser Lys Gly Asn Gln Ile
130 135 140
Arg Ile Arg Phe Val Ser Asp Glu Tyr Phe Pro Ser Glu Pro Gly Phe
145 150 155 160
Cys Ile His Tyr Asn Ile Val Met Pro Gln Phe Thr Glu Ala Val Ser
165 170 175
Pro Ser Val Leu Pro Pro Ser Ala Leu Pro Leu Asp Leu Leu Asn Asn
180 185 190
Ala Ile Thr Ala Phe Ser Thr Leu Glu Asp Leu Ile Arg Tyr Leu Glu
195 200 205
Pro Glu Arg Trp Gln Leu Asp Leu Glu Asp Leu Tyr Arg Pro Thr Trp
210 215 220
Gln Leu Leu Gly Lys Ala Phe Val Phe Gly Arg Lys Ser Arg Val Val
225 230 235 240
Asp Leu Asn Leu Leu Thr Glu Glu Val Arg Leu Tyr Ser Cys Thr Pro
245 250 255
Arg Asn Phe Ser Val Ser Ile Arg Glu Glu Leu Lys Arg Thr Asp Thr
260 265 270

Ile Phe Trp Pro Gly Cys Leu Leu Val Lys Arg Cys Gly Gly Asn Cys
275 280 285

Ala Cys Cys Leu His Asn Cys Asn Glu Cys Gln Cys Val Pro Ser Lys
290 295 300

Val Thr Lys Lys Tyr His Glu Val Leu Gln Leu Arg Pro Lys Thr Gly
305 310 315 320

Val Arg Gly Leu His Lys Ser Leu Thr Asp Val Ala Leu Glu His His
325 330 335

Glu Glu Cys Asp Cys Val Cys Arg Gly Ser Thr Gly Gly His His His
340 345 350

His His His
355

<210> 123
<211> 500
<212> DNA
<213> Homo sapiens

<400> 123
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aatccagagt ggtggatctg aaccttctaa cagaggagggt aagattatac agctgcacac 180
ctcgtaactt ctcatgtgcc ataagggaag aactaaagag aaccgatacc attttctggc 240
caggttgtct cctgggtaaa cgctgtggtg ggaactgtgc ctggtgtctc cacaattgca 300
atgaatgtca atgtgtccca agcaaagtta ctaaaaaata ccacgaggtc cttcagttga 360
gaccaaagac cgggtgtcagg ggattgcaca aatcactcac cgacgtggcc ctggagcacc 420
atgaggagtg tgactgtgtg tgcagaggga gcacaggagg ataatgaatt cgaagcttga 480
tccggtgct aacaaagccc 500

<210> 124
<211> 149
<212> PRT
<213> Homo sapiens

<400> 124
Met Arg Gly Ser His His His His His His Gly Met Ala Ser Met Thr
1 5 10 15
Gly Gly Gln Gln Met Gly Arg Asp Leu Tyr Asp Asp Asp Asp Lys Asp
20 25 30
Pro Gly Arg Lys Ser Arg Val Val Asp Leu Asn Leu Leu Thr Glu Glu
35 40 45
Val Arg Leu Tyr Ser Cys Thr Pro Arg Asn Phe Ser Val Ser Ile Arg
50 55 60

Glu Glu Leu Lys Arg Thr Asp Thr Ile Phe Trp Pro Gly Cys Leu Leu
65 70 75 80

Val Lys Arg Cys Gly Gly Asn Cys Ala Cys Cys Leu His Asn Cys Asn
85 90 95

Glu Cys Gln Cys Val Pro Ser Lys Val Thr Lys Lys Tyr His Glu Val
100 105 110

Leu Gln Leu Arg Pro Lys Thr Gly Val Arg Gly Leu His Lys Ser Leu
115 120 125

Thr Asp Val Ala Leu Glu His His Glu Glu Cys Asp Cys Val Cys Arg
130 135 140

Gly Ser Thr Gly Gly
145

<210> 125
<211> 550
<212> DNA
<213> Homo sapiens

<400> 125
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agatcctcag catgagagaa ttattactgt gtctactaat ggaagtattc acagcccaag 180
gtttcctcat acttatccaa gaaatacggg cttgggtatgg agattagtag cagtagagga 240
aaatgtatgg atacaactta cgtttgatga aagatttggg cttgaagacc cagaagatga 300
catatgcaag tatgattttg tagaagttga ggaacccagt gatggaacta tattagggcg 360
ctgggtgtgg tctgggtactg taccaggaaa acagatttct aaaggaaatc aaattaggat 420
aagatttgta tctgatgaat attttccttc tgaaccaggg ttctgcatcc actacaacat 480
tgtcatgcca caattcacag aagctgtgta gtcgagctcc gtcgacaagc ttgcggccgc 540
actcgagcac 550

<210> 126
<211> 168
<212> PRT
<213> Homo sapiens

<400> 126
Met Ala Met Asp Ile Gly Ile Asn Ser Asp Pro Glu Ser His His His
1 5 10 15

His His His Glu Ser Asn Leu Ser Ser Lys Phe Gln Phe Ser Ser Asn
20 25 30

Lys Glu Gln Asn Gly Val Gln Asp Pro Gln His Glu Arg Ile Ile Thr
35 40 45

Val	Ser	Thr	Asn	Gly	Ser	Ile	His	Ser	Pro	Arg	Phe	Pro	His	Thr	Tyr
50						55					60				
Pro	Arg	Asn	Thr	Val	Leu	Val	Trp	Arg	Leu	Val	Ala	Val	Glu	Glu	Asn
65					70					75					80
Val	Trp	Ile	Gln	Leu	Thr	Phe	Asp	Glu	Arg	Phe	Gly	Leu	Glu	Asp	Pro
			85						90					95	
Glu	Asp	Asp	Ile	Cys	Lys	Tyr	Asp	Phe	Val	Glu	Val	Glu	Glu	Pro	Ser
			100					105						110	
Asp	Gly	Thr	Ile	Leu	Gly	Arg	Trp	Cys	Gly	Ser	Gly	Thr	Val	Pro	Gly
		115					120					125			
Lys	Gln	Ile	Ser	Lys	Gly	Asn	Gln	Ile	Arg	Ile	Arg	Phe	Val	Ser	Asp
	130					135					140				
Glu	Tyr	Phe	Pro	Ser	Glu	Pro	Gly	Phe	Cys	Ile	His	Tyr	Asn	Ile	Val
145					150					155					160
Met	Pro	Gln	Phe	Thr	Glu	Ala	Val								
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<210> 127
 <211> 542
 <212> DNA
 <213> Homo sapiens

<400> 127
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 ttgaaccaga gagatggcag ttggacttag aagatctata taggccaact tggcaacttc 240
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 taaagagaac cgataccatt ttctggccag gttgtctcct gggttaaagc tgtgggtggga 420
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 aaaaatacca cgaggtaggt atacaatttt ctttttggtt tccttcgggt attttatgtc 540
 tt 542

<210> 128
 <211> 1710
 <212> DNA
 <213> Homo sapiens

<400> 128
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ccctggagca ccatgaggag tgtgactgtg tgtgcagagg gagcacagga ggatagccgc 180
atcaccacca gcagctcttg cccagagctg tgcagtgcag tggctgattc tattagagaa 240
cgtatgcgtt atctccatcc ttaatctcag ttgtttgctt caaggacctt tcctcttcag 300
gatttacagt gcattctgaa agaggagaca tcaaacagaa ttaggagttg tgcaacagct 360
cttttgagag gaggcctaaa ggacaggaga aaaggctctt aatcgtggaa agaaaattaa 420
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gcctaaaatc gtataaaatc tggatttttt tttttttttt tgcgcatatt cacatatgta 660
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ttcttggact ctgagaaaat gaaagataaa 1710

<210> 129

<211> 2668

<212> DNA

<213> Homo sapiens

<400> 129

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ctatgtacta	caaacctggg	ttttaaaaag	gaactatggt	gctatgaatt	aaacttgtgt	1860
catgctgata	gyacagactg	gatttttcat	atttcttatt	aaaatttctg	ccatttagaa	1920

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gaagagaact acattcatgg ttggaagag ataaacctga aaagaagagt ggccttatct 1980
tcactttatc gataagtcag tttatttggt tcattgtgta catttttata ttctcctttt 2040
gacattataa ctgttggtt ttctaattct gttaaataa tctattttta ccaaaggat 2100
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cacatcctat ttattgtgat gttgtggtt tattatctta aactctgttc catacacttg 2580
tataaataca tggatatttt tatgtacaga agtatgtctc ttaaccagtt cacttattgt 2640
acctggaagg gcgaattctg cagatatc 2668

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<210> 130
<211> 345
<212> PRT
<213> Homo sapiens

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<400> 130

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Met Ser Leu Phe Gly Leu Leu Leu Leu Thr Ser Ala Leu Ala Gly Gln
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Arg Gln Gly Thr Gln Ala Glu Ser Asn Leu Ser Ser Lys Phe Gln Phe
          20          25          30
Ser Ser Asn Lys Glu Gln Asn Gly Val Gln Asp Pro Gln His Glu Arg
          35          40          45
Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser Pro Arg Phe Pro
          50          55          60
His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp Arg Leu Val Ala Val
65          70          75          80
Glu Glu Asn Val Trp Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu
          85          90          95
Glu Asp Pro Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu
          100         105         110
Glu Pro Ser Asp Gly Thr Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr
          115         120         125
Val Pro Gly Lys Gln Ile Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe
          130         135         140

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Val	Ser	Asp	Glu	Tyr	Phe	Pro	Ser	Glu	Pro	Gly	Phe	Cys	Ile	His	Tyr
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Asn	Ile	Val	Met	Pro	Gln	Phe	Thr	Glu	Ala	Val	Ser	Pro	Ser	Val	Leu
				165					170					175	
Pro	Pro	Ser	Ala	Leu	Pro	Leu	Asp	Leu	Leu	Asn	Asn	Ala	Ile	Thr	Ala
			180					185						190	
Phe	Ser	Thr	Leu	Glu	Asp	Leu	Ile	Arg	Tyr	Leu	Glu	Pro	Glu	Arg	Trp
		195					200					205			
Gln	Leu	Asp	Leu	Glu	Asp	Leu	Tyr	Arg	Pro	Thr	Trp	Gln	Leu	Leu	Gly
	210					215					220				
Lys	Ala	Phe	Val	Phe	Gly	Arg	Lys	Ser	Arg	Val	Val	Asp	Leu	Asn	Leu
225					230					235					240
Leu	Thr	Glu	Glu	Val	Arg	Leu	Tyr	Ser	Cys	Thr	Pro	Arg	Asn	Phe	Ser
				245					250					255	
Val	Ser	Ile	Arg	Glu	Glu	Leu	Lys	Arg	Thr	Asp	Thr	Ile	Phe	Trp	Pro
			260					265					270		
Gly	Cys	Leu	Leu	Val	Lys	Arg	Cys	Gly	Gly	Asn	Cys	Ala	Cys	Cys	Leu
		275					280					285			
His	Asn	Cys	Asn	Glu	Cys	Gln	Cys	Val	Pro	Ser	Lys	Val	Thr	Lys	Lys
	290					295					300				
Tyr	His	Glu	Val	Leu	Gln	Leu	Arg	Pro	Lys	Thr	Gly	Val	Arg	Gly	Leu
305					310					315					320
His	Lys	Ser	Leu	Thr	Asp	Val	Ala	Leu	Glu	His	His	Glu	Glu	Cys	Asp
				325					330					335	
Cys	Val	Cys	Arg	Gly	Ser	Thr	Gly	Gly							
			340					345							